Connector Arrangement

The present invention relates to a connector arrangement in accordance with the preamble of patent claim 1. Such connector arrangements are suitable particularly for insertion of plug faces with a large number of plug pins into each other, so that the required insertion force is large. By way of the cross slider with guide frame ramps, which is actuated by means of a pivoted lever, it is possible to facilitate the insertion by exploiting lever principles. The guide frame slots and guide tabs required for this are positioned, as a rule, on the widest lateral walls of the plug connectors, the guide tabs being introduced into the guide frame slots, which are closed at both ends, by elastic deformation of the lateral walls. When the guide tabs are seated in the slots, the lateral walls snap elastically back into their original position, so that the cross slider and/or the pivoted lever is/are mounted.

This procedure is not suitable for automatic assembly and the fabrication process is therefore lengthened and thus made more costly. The present invention is based on the problem of extensively improving a connector arrangement of this type in such a manner that it is suitable for mechanical assembly.

A solution to this problem is recited by the claim. Features of preferred embodiment examples are characterized in the subclaims.

The invention is based on the idea of designing all required guide frames to be open on one side, so that housing walls do not have to bend out for introduction of the guide tabs. Further measures and specific geometric arrangements of the open ends ensure that the guide tabs are not able to slip accidentally out of the guide frame slots.

In the following, the invention will be explained in greater detail on the basis of the description of an embodiment example with reference to the drawing. Shown therein are:

Fig. 1	two complementary housings of the connector arrangement of the invention;
Fig. 2	the cross slider actuated by a pivoted lever; and
Fig. 3	the pivoted lever viewed in perspective.

Visible in Fig. 1 is a first housing 1, in which a socket arrangement 4 forms the plug face. Located on the back side of the housing 1 are the bearing sleeves 11 for receiving the bearing tabs 16 of the pivoted lever 5 and the circular segment guide frame [slots] 9. The circular segment guide frame [slots] 9 are open at one end through a straight extension in the direction opposite to the direction of plugging. Accordingly, the bearing sleeves 11 and the circular segment guide frame [slots] 9 are open toward the same side, so that the pivoted lever 5 can be introduced from behind in the direction of plugging with its guide

tabs and bearing tabs 16, 18. The bearing sleeve 11 has, on one side, a spring arm 17 positioned at an angle to the direction of plugging, the free end of which is swung out of the way by the bearing tab when the latter is inserted in order to spring back into the initial position when the bearing tab 16 has reached its final position. In this way, the bearing tab 16 is locked in its final position.

The second housing 2 has a complementary arrangement of plug pins 3. Shown in addition are the guide tabs 12a, 12b, which are introduced into the corresponding guide frame slots 7a, 7b of the cross slider 6 shown in Fig. 2. The guide frame slots 7a, 7b of the cross slider 6 are also open in the direction of plugging, so that the guide tabs 12a, 12b can be introduced without deformation of the cross slider walls. The ramp-shaped guide frame slots 7a, 7b, in contrast to the circular segment guide frame slots 9, do not go all the way through as perforations, but rather only form grooves in the inner walls of the cross slider walls 6. Formed on the openings 7c, 7d are tongues with catch pieces 14, it being necessary during insertion for the guide tabs 12a, 12b to overcome the angled catch pieces in order to reach the guide frame ramps. In this way, the connection is designed to be more secure and it allows a rapid mechanical insertion of the connector parts into one another.

Fig. 3 shows the pivoted lever 5 viewed in perspective. Evident are the bearing tabs 16 and the guide tabs 18, which are introduced into slots 8, slots 8 are positioned on the outer walls of the cross slider 6 and are open in the direction opposite to the direction of plugging, the bearing tab 16 and the guide tabs 18 move the cross slider transverse to the direction of plugging when the pivoted lever is twisted, whereby the guide tabs 12a, 12b travel up the ramps of the guide slots 7a, 7b, while, at the same time, the two plug connector housings 1, 2 are moved toward each other and the plug pins and plug sockets are inserted into one another.

The above description of an embodiment example of the present invention is not to be understood as being limiting, but rather serves only for explanation of the invention described in the claims.